

We Claim:

1. A blood processing system comprising a blood component product harvested from the blood drawn from an individual, a container sized to receive the blood component product, and a device communicating with the container to remove cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators from the blood component product.
2. A system according to claim 1 wherein the blood component product includes a red blood cell component.
3. A system according to claim 1 wherein the blood component product includes a platelet component.
4. A system according to claim 1 wherein the blood component product includes a white blood cell component.
5. A system according to claim 1 wherein the blood component product includes a plasma component.
6. A system according to claim 1 wherein the device includes an adsorption medium to remove cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators.
7. A system according to claim 6 wherein the adsorption medium is characterized by a Biocompatibility Index of not greater than 14.
8. A system according to claim 7 wherein the Biocompatibility Index is not greater than 7.
9. A system according to claim 1 or 2 wherein the device includes an adsorption medium to remove cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators, the adsorption medium comprising a polymeric material.

10. A system according to claim 9
wherein the polymeric material comprises
particles prepared by polymerization or copolymerization of
a monomer selected from a group consisting of styrene,
5 ethylstyrene, α -methylstyrene, divinylbenzene, di
isopropenyl benzene, trivinylbenzene, and alkyl
methacrylate.

11. A system according to claim 9
wherein the polymeric material comprises
particles formed from crosslinked polystyrene-type resins
having a surface modified to minimize activation of blood
5 complement system.

12. A system according to claim 9
wherein the polymeric material comprises
particles formed from a porous hydrophobic divinylbenzene
copolymer having a surface modified to include surface
5 exposed functional groups selected from the group of
polymers of 2-hydroxyethyl methacrylate, N-vinylpyrrolidine,
N-vinylcaprolactame and N-acrylamide.

13. A system according to claim 9
wherein the polymeric material comprises
particles formed by polymerization of aromatic divinyl
compounds or their copolymerization with aromatic monovinyl
5 compounds in the presence of porogens or mixtures of
porogens with properties close to those of θ -solvents.

14. A system for collecting a blood component
product comprising
means for processing the blood drawn from an
individual into a blood component product,
5 a storage container,
means for collecting the blood component product
in the storage container, and
means for removing cytokines or other species of
pro-inflammatory or anti-inflammatory stimulators or
10 mediators from the blood component product before, during ,

or after its collection in the storage container.

15. A system according to claim 14

wherein the blood component product includes a red blood cell component.

16. A system according to claim 14

wherein the blood component product includes a platelet component.

17. A system according to claim 14

wherein the blood component product includes a white blood cell component.

18. A system according to claim 14

wherein the blood component product includes a plasma component.

19. A system according to claim 14

wherein the means for removing cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators includes an adsorption medium to remove cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators.

20. A system according to claim 19

wherein the adsorption medium is characterized by a Biocompatibility Index of not greater than 14.

21. A system according to claim 20

wherein the Biocompatibility Index is not greater than 7.

22. A system according to claim 14

wherein the device includes an adsorption medium to remove cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators, the adsorption medium comprising a polymeric material.

23. A system according to claim 22

wherein the polymeric material comprises particles prepared by polymerization or copolymerization of a monomer selected from a group consisting of styrene, ethylstyrene, α -methylstyrene, divinylbenzene, di

isopropenyl benzene, trivinylbenzene, and alkyl methacrylate.

24. A system according to claim 22

wherein the polymeric material comprises particles formed from crosslinked polystyrene-type resins having a surface modified to minimize activation of blood complement system.

25. A system according to claim 22

wherein the polymeric material comprises particles formed from a porous hydrophobic divinylbenzene copolymer having a surface modified to include surface exposed functional groups selected from the group of polymers of 2-hydroxyethyl methacrylate, N-vinylpyrrolidine, N-vinylcaprolactame and N-acrylamide.

26. A system according to claim 22

wherein the polymeric material comprises particles formed by polymerization of aromatic divinyl compounds or their copolymerization with aromatic monovinyl compounds in the presence of porogens or mixtures of porogens with properties close to those of θ -solvents.

27. A method for collecting a blood component

product comprising the steps of

processing the blood drawn from an individual into a blood component product,

collecting the blood component product in a storage container, and

removing cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators from the blood component product before, during, or after its collection in the storage container.

28. A method according to claim 27

wherein the blood component product includes a red blood cell component.

29. A method according to claim 27

wherein the blood component product includes a

platelet component.

30. A method according to claim 27

wherein the blood component product includes a white blood cell component.

31. A method according to claim 27

wherein the blood component product includes a plasma component.

32. A method according to claim 27

wherein the removing step includes use of an adsorption medium to remove cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators.

33. A method according to claim 32

wherein the adsorption medium comprises a polymeric material.

34. A method according to claim 33

wherein the polymeric material comprises particles prepared by polymerization or copolymerization of a monomer selected from a group consisting of styrene, ethylstyrene, α -methylstyrene, divinylbenzene, diisopropenyl benzene, trivinylbenzene, and alkyl methacrylate.

35. A method according to claim 33

wherein the polymeric material comprises particles formed from crosslinked polystyrene-type resins having a surface modified to minimize activation of blood complement system.

36. A method according to claim 33

wherein the polymeric material comprises particles formed from a porous hydrophobic divinylbenzene copolymer having a surface modified to include surface exposed functional groups selected from the group of polymers of 2-hydroxyethyl methacrylate, N-vinylpyrrolidine, N-vinylcaprolactame and N-acrylamide.

37. A method according to claim 33

wherein the polymeric material comprises particles formed by polymerization of aromatic divinyl compounds or their copolymerization with aromatic monovinyl compounds in the presence of porogens or mixtures of porogens with properties close to those of θ -solvents.